WHAT IS CLAIMED IS:

1. A plasma display device, comprising:

a plurality of X electrodes;

a plurality of Y electrodes arranged adjacent to said plurality of X electrodes for causing sustain discharges between said plurality of X electrodes and said plurality of Y electrodes;

an X electrode drive circuit for applying a sustain discharge voltage to said plurality of X electrodes; and

a Y electrode drive circuit for applying a sustain discharge voltage to said plurality of Y electrodes,

wherein said X electrode drive circuit and said Y electrode drive circuit have:

a first sustain drive mode in which discharge pulses to predetermined adjacent electrodes rise or fall in the same direction at the same time; and

a second sustain drive mode in which discharge pulses to all adjacent electrodes rise or fall at different timings.

2. The plasma display device according to claim 1,

wherein said X electrode drive circuit has:

an odd-numbered X electrode drive circuit for applying a sustain discharge voltage to odd-numbered electrodes of said plurality of X electrodes; and

an even-numbered X electrode drive circuit for applying a sustain discharge voltage to even-numbered electrodes of said plurality of X electrodes, and

wherein said Y electrode drive circuit has:

an odd-numbered Y electrode drive circuit for applying a sustain discharge voltage to odd-numbered electrodes of said plurality of Y electrodes; and

an even-numbered Y electrode drive circuit for applying a sustain discharge voltage to even-numbered electrodes of said plurality of Y electrodes.

3. The plasma display device according to claim 2, wherein, in said first sustain drive mode, a discharge pulse outputted from said even-numbered Y electrode drive circuit rises concurrently with rising of a discharge pulse outputted from said odd-numbered X electrode drive circuit, and thereafter a discharge pulse outputted from said odd-numbered Y electrode drive circuit rises concurrently with rising of a discharge pulse outputted from said even-numbered X electrode drive circuit.

4. The plasma display device according to claim 2, wherein, in said first sustain drive mode, a discharge pulse outputted from said even-numbered Y electrode drive circuit falls concurrently with falling of a discharge pulse outputted from said odd-numbered X electrode drive circuit, and thereafter when a discharge pulse outputted from said odd-numbered Y electrode drive circuit falls concurrently

with falling of a discharge pulse outputted from said even-numbered X electrode drive circuit.

5. The plasma display device according to claim 1, wherein each of said plurality of X electrodes and said plurality of Y electrodes capable of a sustain discharge with respect to an adjacent electrode only on one side thereof.

6. The plasma display device according to claim 2, wherein each of said plurality of X electrodes and said plurality of Y electrodes capable of a sustain discharge with respect to an adjacent electrode only on one side thereof.

7. The plasma display device according to claim 3, wherein each of said plurality of X electrodes and said plurality of Y electrodes capable of a sustain discharge with respect to an adjacent electrode only on one side thereof.

8. The plasma display device according to claim 4, wherein each of said plurality of X electrodes and said plurality of Y electrodes capable of a sustain discharge with respect to an adjacent electrode only on one side thereof.

9. The plasma display device according to claim 1, wherein each of said plurality of X electrodes and said plurality of Y electrodes capable of sustain discharges with respect to adjacent electrodes on both sides thereof.

10. The plasma display device according to claim 2, wherein each of said plurality of X electrodes and said plurality of Y electrodes capable of sustain discharges with respect to adjacent electrodes on both sides thereof.

11. The plasma display device according to claim 3, wherein each of said plurality of X electrodes and said plurality of Y electrodes capable of sustain discharges with respect to adjacent electrodes on both sides thereof.

12. The plasma display device according to claim 4, wherein each of said plurality of X electrodes and said plurality of Y electrodes capable of sustain discharges with respect to adjacent electrodes on both sides thereof.

13. The plasma display device according to claim 1, wherein said X electrode drive circuit and said Y electrode drive circuit, in said second sustain drive mode, generate sustain discharge voltages such that when a display cell including adjacent first electrode and second electrode of said plurality of X electrodes and said plurality of Y electrodes is selected to light up, and a first voltage Vs1 is applied to said first electrode and a second voltage Vs2 is applied to said second electrode to cause a sustain discharge between said first and second electrodes, an applied voltage Vc to a third

electrode adjacent to said first electrode opposite to said second electrode falls within a range

$Vs2 \leqq Vc < Vs1$, and

in this case, when a display cell including said third electrode is selected to light up, the polarity of a wall charge formed on said third electrode becomes positive.

14. The plasma display device according to claim 1, wherein said X electrode drive circuit and said Y electrode drive circuit, in said second sustain drive mode, generate sustain discharge voltages such that when a display cell including adjacent first electrode and second electrode of said plurality of X electrodes and said plurality of Y electrodes is selected to light up, and a first voltage Vs1 is applied to said first electrode and a second voltage Vs2 is applied to said second electrode to cause a sustain discharge between said first and second electrodes, an applied voltage Vd to a third electrode adjacent to said second electrode opposite to said first electrode falls within a range

$Vs2 \leqq Vd < Vs1$, and

in this case, when a display cell including said third electrode is selected to light up, the polarity of a wall charge formed on said third electrode becomes positive.

15. The plasma display device according to claim 1, wherein said X electrode drive circuit and said Y

electrode drive circuit, in said second sustain drive mode, generate sustain discharge voltages such that when a display cell including adjacent first electrode and second electrode of said plurality of X electrodes and said plurality of Y electrodes is selected to light up, and a first voltage Vs1 is applied to said first electrode and a second voltage Vs2 is applied to said second electrode to cause a sustain discharge between said first and second electrodes, an applied voltage Vc to a third electrode adjacent to said first electrode opposite to said second electrode falls within a range

$Vs2 < Vc < Vs1$, and

in this case, when a display cell including said third electrode is selected to light up, the polarity of a wall charge formed on said third electrode becomes negative.

16. The plasma display device according to claim 1, wherein said X electrode drive circuit and said Y electrode drive circuit, in said second sustain drive mode, generate sustain discharge voltages such that when a display cell including adjacent first electrode and second electrode of said plurality of X electrodes and said plurality of Y electrodes is selected to light up, and a first voltage Vs1 is applied to said first electrode and a second voltage Vs2 is applied to said second electrode to cause a sustain discharge between said first and second

electrodes, an applied voltage Vc to a third electrode adjacent to said first electrode opposite to said second electrode falls within a range

$Vc = Vs1$ within first 500 ns and thereafter

$Vs2 < Vc < Vs1$, and

in this case, when a display cell including said third electrode is selected to light up, the polarity of a wall charge formed on said third electrode becomes negative.

17. The plasma display device according to claim 1, wherein said X electrode drive circuit and said Y electrode drive circuit, in said second sustain drive mode, generate sustain discharge voltages such that when a display cell including adjacent first electrode and second electrode of said plurality of X electrodes and said plurality of Y electrodes is selected to light up, and a first voltage Vs1 is applied to said first electrode and a second voltage Vs2 is applied to said second electrode to cause a sustain discharge between said first and second electrodes, an applied voltage Vd to a third electrode adjacent to said second electrode opposite to said first electrode falls within a range

$Vs2 \leqq Vd \leqq Vs1$, and

in this case, when a display cell including said third electrode is selected to light up, the polarity of a wall charge formed on said third electrode becomes negative.

18. The plasma display device according to claim 1,

wherein said plurality of X electrodes and said plurality of Y electrodes include a first to a sixth electrode adjacent in order therein, and

wherein said X electrode drive circuit and said Y electrode drive circuit, in said second sustain drive mode, generate sustain discharge voltages such that when a second voltage Vs2 is applied to said third electrode and a first voltage Vs1 is applied to said fourth electrode to cause a sustain discharge between said third and fourth electrodes, an applied voltage V2 to said second electrode falls within a range $Vs2 \leqq V2 < Vs1$, and, in this case, when a display cell including said first and second electrodes is selected to light up, the polarity of a wall charge formed on said second electrode becomes positive, and an applied voltage V5 to said fifth electrode falls within a range $Vs2 < V5 < Vs1$, and, in this case, when a display cell including said fifth and sixth electrodes is selected to light up, the polarity of a wall charge formed on said fifth electrode becomes negative,

subsequently, when the second voltage Vs2 is applied to said first electrode, and the first voltage Vs1 is applied to said second electrode to cause a sustain discharge between said first and second electrodes, an applied voltage V3 to said

third electrode falls within a range $Vs2 \leqq V3 < Vs1$, and when the second voltage Vs2 is applied to said fifth electrode, and the first voltage Vs1 is applied to said sixth electrode to cause a sustain discharge between said fifth and sixth electrodes, an applied voltage V4 to said fourth electrode falls within a range $Vs2 \leqq V4 \leqq Vs1$,

subsequently, when the first voltage Vs1 is applied to said first electrode, and the second voltage Vs2 is applied to said second electrode to cause a sustain discharge between said first and second electrodes, the applied voltage V3 to said third electrode falls within a range $Vs2 \leqq V3 < Vs1$, and when the first voltage Vs1 is applied to said fifth electrode, and the second voltage Vs2 is applied to said sixth electrode to cause a sustain discharge between said fifth and sixth electrodes, the applied voltage V4 to said fourth electrode falls within a range $Vs2 < V4 < Vs1$, and

subsequently, when the first voltage Vs1 is applied to said third electrode, and the second voltage Vs2 is applied to said fourth electrode to cause a sustain discharge between said third and fourth electrodes, the applied voltage V2 to said second electrode falls within a range $Vs2 \leqq V2 < Vs1$, and the applied voltage V5 to said fifth electrode falls within a range $Vs2 \leqq V5 \leqq Vs1$.

19. The plasma display device according to claim 1,

wherein said plurality of X electrodes and said plurality of Y electrodes include a first to a sixth electrode adjacent in order therein, and

wherein said X electrode drive circuit and said Y electrode drive circuit, in said second sustain drive mode, generate sustain discharge voltages such that when a second voltage Vs2 is applied to said third electrode and a first voltage Vs1 is applied to said fourth electrode to cause a sustain discharge between said third and fourth electrodes, an applied voltage V2 to said second electrode falls within a range $Vs2 \leqq V2 < Vs1$, and, in this case, when a display cell including said first and second electrodes is selected to light up, the polarity of a wall charge formed on said second electrode becomes positive, and an applied voltage V5 to said fifth electrode falls within a range $V5 = Vs1$ within first 500 ns and thereafter $Vs2 < V5 < Vs1$, and, in this case, when a display cell including said fifth and sixth electrodes is selected to light up, the polarity of a wall charge formed on said fifth electrode becomes negative,

subsequently, when the second voltage Vs2 is applied to said first electrode, and the first voltage Vs1 is applied to said second electrode to cause a sustain discharge between said first and

second electrodes, an applied voltage V3 to said third electrode falls within a range $Vs2 \leqq V3 < Vs1$, and when the second voltage Vs2 is applied to said fifth electrode, and the first voltage Vs1 is applied to said sixth electrode to cause a sustain discharge between said fifth and sixth electrodes, an applied voltage V4 to said fourth electrode falls within a range $Vs2 \leqq V4 \leqq Vs1$,

subsequently, when the first voltage Vs1 is applied to said first electrode, and the second voltage Vs2 is applied to said second electrode to cause a sustain discharge between said first and second electrodes, the applied voltage V3 to said third electrode falls within a range $Vs2 \leqq V3 < Vs1$, and when the first voltage Vs1 is applied to said fifth electrode, and the second voltage Vs2 is applied to said sixth electrode to cause a sustain discharge between said fifth and sixth electrodes, the applied voltage V4 to said fourth electrode falls within a range $V4 = Vs1$ within first 500 ns and thereafter $Vs2 < V4 < Vs1$, and

subsequently, when the first voltage Vs1 is applied to said third electrode, and the second voltage Vs2 is applied to said fourth electrode to cause a sustain discharge between said third and fourth electrodes, the applied voltage V2 to said second electrode falls within a range $Vs2 \leqq V2 < Vs1$,

and the applied voltage V5 to said fifth electrode falls within a range $Vs2 \leqq V5 \leqq Vs1$.

20. The plasma display device according to claim 1, wherein said X electrode drive circuit and said Y electrode drive circuit, in said second sustain drive mode, perform at different timings the sustain discharges of even-numbered electrode pairs and odd-numbered electrode pairs of said plurality of pairs of X electrodes and Y electrodes for performing sustain discharges.

21. The plasma display device according to claim 20,

wherein said X electrode drive circuit and said Y electrode drive circuit, in said second sustain drive mode, perform the sustain discharge for light emission of one pair of said even-numbered electrode pair and said odd-numbered electrode pair among said plurality of pairs of X electrodes and Y electrodes for performing sustain discharges, and then perform the sustain discharge for light emission of another pair, and

wherein the applied voltages to said one electrode pair are sustained from the start of the sustain discharge for light emission between said one electrode pair to the end of the sustain discharge for light emission between said other electrode pair.

22. The plasma display device according to claim 21,

wherein said X electrode drive circuit and said Y electrode drive circuit, in said second sustain drive mode, when performing the sustain discharge for light emission between said one electrode pair,

apply a first voltage Vs1 to one of electrodes constituting said one electrode pair, and apply a second voltage Vs2 to another electrode (Vs1 > Vs2), and

wherein an applied voltage Vc to an electrode, adjacent to said one electrode, of electrodes constituting said other electrode pair falls within a range Vs2 < Vc < Vs1, and an applied voltage Vd to an electrode adjacent to said other electrode falls within a range Vs2 $\leqq$ Vd < Vs1.

23. The plasma display device according to claim 1, further comprising:

an ambient light detector for detecting ambient brightness,

wherein said X electrode drive circuit and said Y electrode drive circuit change between the first sustain drive mode and the second sustain drive mode in accordance with the detected ambient light by said ambient light detector.

24. The plasma display device according to claim 23, wherein said X electrode drive circuit and said Y electrode drive circuit operate in the first sustain drive mode when the ambient brightness is high and

operate in the second sustain drive mode when the ambient brightness is low.

25. The plasma display device according to claim 1, wherein said X electrode drive circuit and said Y electrode drive circuit change between the first sustain drive mode and the second sustain drive mode in accordance with an input video signal.

26. The plasma display device according to claim 25, wherein said X electrode drive circuit and said Y electrode drive circuit detect a resolution or a frequency component of a video based on the input video signal and change between the first sustain drive mode and the second sustain drive mode in accordance with the resolution or the frequency component.

27. The plasma display device according to claim 26, wherein said X electrode drive circuit and said Y electrode drive circuit detect the frequency component of a video based on the input video signal, and operate in the second sustain drive mode when a high frequency component is at a predetermined value or more and operate in the first sustain drive mode when the high frequency component is at a value less than the predetermined value.

28. The plasma display device according to claim 26, wherein said X electrode drive circuit and said Y electrode drive circuit detect the resolution of a video based on the input video signal, and operate in

the first sustain drive mode for a low resolution and operate in the second sustain drive mode for a high resolution.

29. The plasma display device according to claim 1, further comprising:

a pulse number controller for detecting current or voltage to be supplied to said X electrode drive circuit and said Y electrode drive circuit and controlling the number of discharge pulses generated by said X electrode drive circuit and said Y electrode drive circuit so that the current or voltage is at a predetermined value or less.

30. The plasma display device according to claim 1, further comprising:

an ambient light detector for detecting ambient brightness; and

a video signal detector for detecting an input video signal,

wherein a change is made between the first sustain drive mode and the second sustain drive mode in accordance with the detected ambient brightness and/or the input video signal.